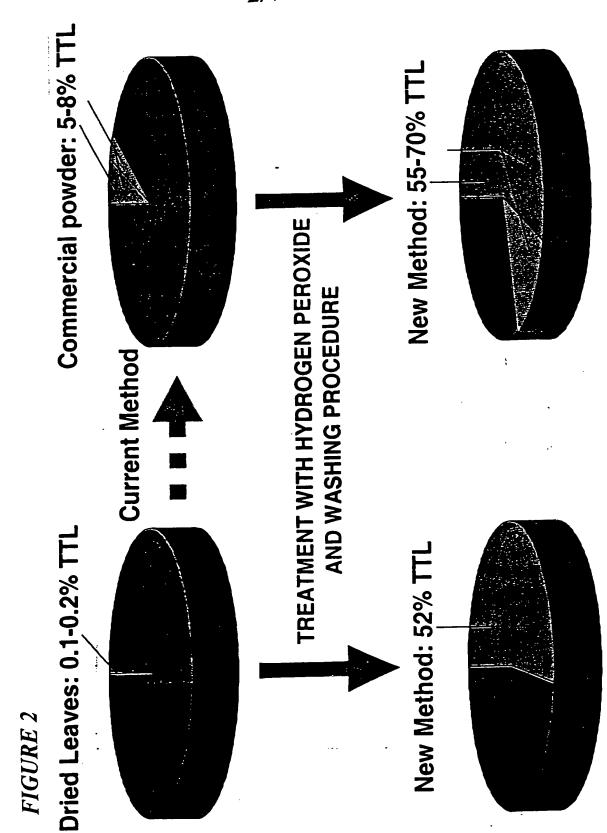


FIGURE 1



From commercial powder with 5-8% of terpene trilactones(ginkgolides A/B/C/J and bilobalide) FIGURE 3

1. SOLUTION

Suspend 25 g powder and boil for 1 h in A: 500 ml 5% H₂O₂ B: 5% H₂O₂/ 1% H₂SO₄

C: 5% H₂O₂ and adjust to ph 4.5-6 before extraaction

2. EXTRACTION

Extract with ethyl acetate (1st: 250 ml, 2nd: 125 ml) Combine organic layers

3. PURIFICATION

A: sat. NaHCO₃ (1^{et}: 150 ml, 2nd/3rd: 75 ml) B: sat. NaSO3 (1*1: 150 ml, 2nd: 75 ml) Wash organic layer with D: 80% NaCl (150 ml) C: Water (75 ml)

4. Workup

Analyse samples by quantiative NMR (in DMSO/maleic acid/acetic acid) Dry organic layer over Na, SO, and remove solvent

RESULTS: get 1.3-1.9 g terpene trilactones from 25 g powder (5.2-7.6%)

PURITY: 55-70% ± 5%

(without column chromatography or crystallization)

purity in %

95 90 85 80 75 70 60 65 60 55 40 35 30 20 5 5 0 5% H₂SO₄ 5% H₂O₂ washing with 100,8 74,8 74,2 æ 20 ml oxidation solution, 10 min boiling, only 1st extraction (15 ml EtOAc), 5% H₂O₂ 4% H₂SO₄ washing with 76,2 96,4 79,1 washing with sat. NaHCO₃, sat. Na₂S₂O₃ and sat. NaCl (15 ml each). purity in % 3% H₂SO₄ 5% H₂O₂ washing with 98,2 76,4 77,8 5% H₂O₂ 2% H₂SO₄ washing with 79,6 93 74 5% H₂O₂ 1% H₂SO₄ washing <u>vit</u> 71,8 90'8 89,1 5% H₂O₂ **0.5%** H₂SO₄ washing with 75,5 92,6 79,1 0% H₂SO₄ 5% H₂O₂ washing with 134,8 103,6 6'9/ mg TTL/g mg extract/g 0% H₂SO₄ washing 5% H₂O₂ without 247,8 37,9 94 FIGURE 4 ←mg TTUg 20 100 150 250 200 F-mg/g -- purity a/gm

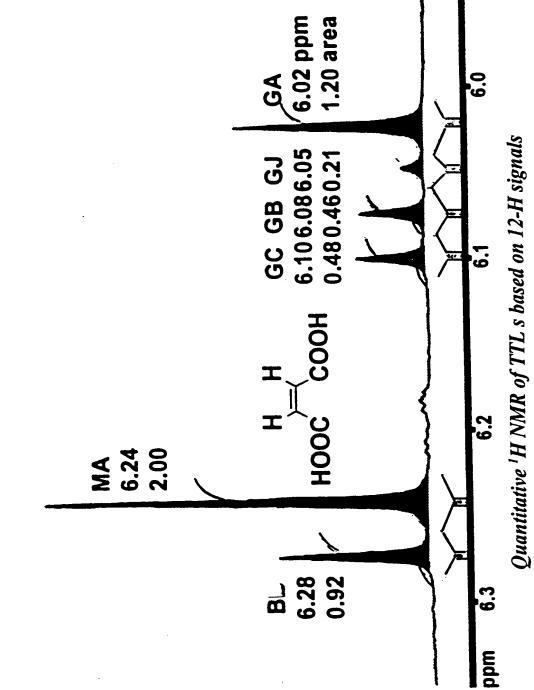
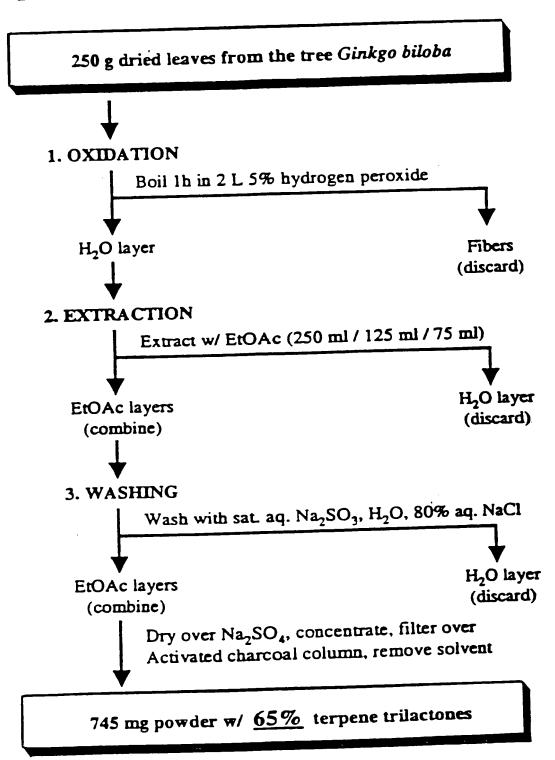


FIGURE 5



Optimized extraction protocol for dried leaves.

FIGURE 7A

